

In the claims:

Please amend the claims as follows:

-
1. (Currently Amended) A method comprising
moving a web comprising a film through a machine in a direction along a length of the
web,
causing a liquid to pass from ^{A FIRST} ~~one~~ surface of the web through small holes to ^{A SECOND} ~~another~~
surface of the web by applying a vacuum to a surface of the web, and
[making the web available for] inspecting [of] one of the surfaces of the web to detect
liquid that has passed from another surface of the web through the small holes at the inspection
surface,
at least one of the causing and inspecting steps occurring while the web is moving
through the machine.
2. (Original) The method of claim 1 wherein the web comprises a laminate of the
film with another material.
3. (Original) The method of claim 1 wherein the inspecting is done while the web is
moving through the machine.
4. (Original) The method of claim 1 wherein the inspecting is done after the web is
removed from the machine.
5. (Original) The method of claim 1 in which the liquid is applied to the other
surface from a supply of liquid.
6. (Original) The method of claim 1 in which the liquid is applied to the other
surface while the web is moving.

7. (Original) The method of claim 6 in which the liquid is applied, the vacuum is applied, and the inspection [are all] is done while the web is moving.

8. (Original) The method of claim 1 in which the liquid is applied to the other surface while the web is moving from a supply end to a take up end of the machine.

9. (Original) The method of claim 1 in which the liquid forms a film on the other surface.

10. (Original) The method of claim 9 in which the liquid is applied in a film that substantially spans a full width of the surface.

11. (Original) The method of claim 1 wherein the liquid contains a colorant.

12. (Original) The method of claim 1 wherein the small holes comprise pinholes.

13. (Original) The method of claim 1 wherein the vacuum produces a pressure differential between the one surface and the other surface that is at least as large as a maximum pressure differential between the surfaces that is expected to occur during subsequent processing and use.

14. (Currently amended) The method of claim 13 wherein the pressure differential [that] is at least 15% larger than the maximum expected pressure differential.

15. (Original) The method of claim 1 in which the other surface is an exposed outer surface of the web.

16. (Original) The method of claim 2 in which the one surface and the other surface are disposed to opposite sides of the film layer of the laminate.

A'
(Contd)

17. (Original) The method of claim 2 in which the laminate comprises a long web of fabric.

18. (Currently amended) The method of claim 1 in which the inspecting comprises [observing the inspected surface] using a machine vision device.

19. (Original) The method of claim 1 also including triggering an alarm upon detection of liquid.

20. (Original) The method of claim 1 in which the liquid stains the inspected surface and the inspecting includes observing the stains.

21. (Original) The method of claim 1 in which the liquid is applied to the other surface from a dispenser that spans the width of the web.

22. (Original) The method of claim 1 in which the vacuum is formed using a nozzle that spans the width of the web.

23. (Original) The method of claim 1 in which the liquid comprises water.

24. (Original) The method of claim 1 in which the liquid comprises alcohol.

25. (Original) The method of claim 2 wherein the laminate is formed in the machine.

26. (Original) The method of claim 1 wherein the inspecting and the applying of the vacuum are performed substantially simultaneously.

27. (Original) The method of claim 5 wherein the applying of the vacuum and the applying of the liquid are performed substantially simultaneously.

28. (Original) The method of claim 5 wherein the applying of the liquid and the inspecting are performed substantially simultaneously.

29. (Original) The method of claim 11 wherein the method further comprises, after inspection, rinsing a surface of the web to reduce staining of the surface.

30. (Original) The method of claim 1 further comprising, if liquid is detected on the inspected surface, flagging a portion of the web adjacent the location at which the liquid is detected.

31. (Original) The method of claim 1 wherein inspection comprises visual inspection by a human.

32. (Original) The method of claim 1 wherein the web is moving through the machine at a speed of at least 10 ft/min.

33. (Original) The method of claim 2 wherein the laminate comprises a barrier film and one or more porous layers.

34. (Original) The method of claim 33 wherein the porous layer(s) are selected from the group consisting of fabrics, non-wovens, foams, and breathable sheet materials.

35. (Original) The method of claim 1 further comprising, after inspection, removing residual liquid from the first surface of the web.

36. (Original) The method of claim 1 further comprising collecting any liquid that is drawn through the web and reusing it.

37. (Original) The method of claim 29 further comprising collecting liquid used to rinse the web and reusing it.

38. (Original) The method of claim 29 wherein said rinsing liquid comprises an alcohol solution.

39. (Original) The method of claim 38 wherein said alcohol solution includes water.

40. (Original) The method of claim 1 wherein inspection includes looking for stains on the second surface.

41. (Original) The method of claim 23 in which the liquid further comprises a surfactant.

42. (Original) The method of claim 1 in which the liquid comprises a hydrocarbon solvent.

43. (Original) A method comprising
moving a long web of laminate through a machine in a direction along a length of the laminate, and
while the laminate is moving through the machine,
applying a vacuum to an exposed inspection surface of the laminate from a vacuum source that spans a width of the laminate,
supplying liquid to a second, exposed surface of the laminate from a source that spans a width of the laminate to form a film of liquid, and
inspecting the surface of the laminate using machine vision to detect liquid that has passed from the other surface of the laminate through small holes to the inspected surface,
in which

A1
(contd)

the vacuum produces a pressure differential between the one surface and the other surface that is at least as large as a maximum pressure differential between the surfaces that is expected to occur during subsequent processing and use, and

the one surface and the other surface are disposed on opposite sides of a barrier layer of the laminate.

44. (Original) A method comprising
moving a web comprising a film through a machine, and
while the web is moving, automatically inspecting an inspection surface of the web for stains caused by liquid having penetrated pinholes in the web.

45. (Currently amended) An apparatus comprising:
an applicator configured to dispense liquid onto a first surface of a moving web;
a vacuum port positioned to apply a vacuum to a second surface of the web below the first surface; and
downstream from the applicator and the vacuum port, a vision system aimed at the second surface and configured to detect liquid at the second surface.

46. (Original) The apparatus of claim 45 further comprising a rotary vacuum roll in communication with the vacuum port.

47. (Original) The apparatus of claim 45 further comprising, downstream from the vacuum port, a scraper configured to remove liquid from the first surface.

48. (Original) The apparatus of claim 45 further comprising, downstream from the vacuum port, a rinse applicator configured to dispense liquid onto a location on the first surface.

49. (Original) The apparatus of claim 45 wherein said applicator is configured to dispense said liquid in a film that is substantially continuous film across the first surface.

50. (Original) The apparatus of claim 45 further comprising a driver that is configured to move a sheet material between the applicator and the vacuum port.

51. (Original) The apparatus of claim 50 wherein the driver is configured to move the sheet material at a speed of at least 10 ft/min.

52. (Original) The apparatus of claim 45 further comprising, in communication with said vacuum port, a vacuum configured to produce a pressure differential, between one surface and another surface of a sheet material positioned between the vacuum port and the applicator, that is at least as large as a maximum pressure differential between the surfaces that is expected to occur during subsequent processing and use of the sheet material.

53. (Currently amended) A method comprising
while a web comprising a film is moving along a production line, automatically observing a surface of the web to identify liquid that has passed through [the] pinholes of the web from another surface of the web, and
automatically displaying to an operator of the production line current information about the pinhole state of the web.

54. (New) A method comprising
moving a web comprising a film through a machine in a direction along a length of the web,
causing a liquid to pass from one surface of the web through small holes to another surface of the web by applying a vacuum to a surface of the web, wherein the vacuum produces a pressure differential between the one surface and the other surface that is at least 15% larger than a maximum pressure differential between the surfaces that is expected to occur during subsequent processing and use, and
inspecting to detect liquid that has passed from another surface of the web through the small holes at the inspection surface,

at least one of the causing and inspecting steps occurring while the web is moving through the machine.

55. (New) A method comprising
moving a web comprising a film through a machine in a direction along a length of the web, the web comprising a laminate of the film with another material that is formed in the machine,

causing a liquid to pass from one surface of the web through small holes to another surface of the web by applying a vacuum to a surface of the web, and

inspecting to detect liquid that has passed from another surface of the web through the small holes at the inspection surface,

at least one of the causing and inspecting steps occurring while the web is moving through the machine.

56. (New) A method comprising
moving a web comprising a film through a machine in a direction along a length of the web at a speed of at least 10 ft/min,

causing a liquid to pass from one surface of the web through small holes to another surface of the web by applying a vacuum to a surface of the web, and

inspecting to detect liquid that has passed from another surface of the web through the small holes at the inspection surface,

at least one of the causing and inspecting steps occurring while the web is moving through the machine.

57. (Re-presented - formerly dependent claim 51) An apparatus comprising:
an applicator configured to dispense liquid onto a first surface;
a vacuum port positioned to apply a vacuum to a second surface below the first surface;
a driver that is configured to move a sheet material between the applicator and the vacuum port at a speed of at least 10 ft/min, and

downstream from the applicator and the vacuum port, a vision system aimed at the second surface and configured to detect liquid at the second surface.

58. (New) A method comprising
moving a web comprising a film through a machine in a direction along a length of the web,

causing a liquid to pass from one surface of the web through small holes to another surface of the web by applying a vacuum to a surface of the web, and

inspecting to detect liquid that has passed from another surface of the web through the small holes at the inspection surface,

the causing step occurring while the web is moving through the machine and the inspecting step occurring after the web has been removed from the machine.

59. (New) A method comprising
moving a web comprising a film through a machine in a direction along a length of the web,

causing a liquid to pass from one surface of the web through small holes to another surface of the web by applying a vacuum to a surface of the web, the vacuum producing a pressure differential between the one surface and the other that is at least as large as a maximum pressure differential between the surfaces that is expected to occur during subsequent processing and use, and

inspecting to detect liquid that has passed from another surface of the web through the small holes at the inspection surface,

at least one of the causing and inspecting steps occurring while the web is moving through the machine.

60. (New) A method comprising
moving a web comprising a film through a machine in a direction along a length of the web,

causing a liquid to pass from one surface of the web through small holes to another surface of the web by applying a vacuum to a surface of the web, and

inspecting to detect liquid that has passed from another surface of the web through the small holes at the inspection surface,

at least one of the causing and inspecting steps occurring while the web is moving through the machine, and

after inspection, rinsing a surface of the web to reduce staining of the surface.

61. (New) A method comprising
moving a web comprising a film through a machine in a direction along a length of the web,

causing a liquid, comprising water and a surfactant, to pass from one surface of the web through small holes to another surface of the web by applying a vacuum to a surface of the web, and

inspecting to detect liquid that has passed from another surface of the web through the small holes at the inspection surface,

at least one of the causing and inspecting steps occurring while the web is moving through the machine.

62. (New) A method comprising
moving a web comprising a film through a machine in a direction along a length of the web,

causing a liquid to pass from one surface of the web through small holes to another surface of the web by applying a vacuum to a surface of the web, and

inspecting, using a machine vision device, to detect liquid that has passed from another surface of the web through the small holes at the inspection surface,

at least one of the causing and inspecting steps occurring while the web is moving through the machine.

Applicant : Gregory F. Carey, et al.
Serial No. : 10/022,469
Filed : December 14, 2001
Page : 12 of 16

Attorney Docket No.: 10526-007001

A1
(Circled)

63. (New) A method of claim 54, 55, 56, 58, 59, 60, 61 or 62 wherein the inspecting step comprises inspecting a surface of the web.

hd. 13

8
62
—
70

53